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BIOLOGICAL EVALUATION

OF

THE BROWN-TAIL MOTH

on

Cape Cod National Seashore

by

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A biological evaluation of the brown-tail moth on The Cape Cod National Seashore was conducted by A. R. Hastings and R. P. Ford on January 19, 1966. They were accompanied by A. Schneider, Park Ranger.

Several areas were scouted for winter nests. The infested areas had been mapped by National Seashore personnel.

History:	The brown-tail moth has been present on Cape Cod for over 50 years. In recent years, the populations have been low and confined to dune areas that were not frequented by many people. Approximately 150 acres of infested rose and plum were sprayed in the spring of 1965 with Sevin by hydraulic truck-mounted sprayer. This suppression was within a 670 acre area. Another area about 60 acres was not sprayed.
Causal Agent:	Brown-tail moth, Mygmia phaeorrhoca (Donov.)
Host Trees:	Beach Plum, Prunnis maritima and Rose, Rosa rugosa.
Type of Damage:	Defoliation; unsightly nests. Chiefly, skin rash on humans who come in contact with insects or nests.
Biological Data:	The population of brown-tail is heavy to moderate. The infestation has re-appeared in the sprayed area even though Sevin did cause high larval mortality. Predators, parasites, and diseases were not evident at this time. Food supply is abundant within the infested area and along the entire Cape.
Environmental Factors:	Excessively low temperatures can kill many overwintering larvae. High winds often blow sand over the nests, but larvae are able to crawl through the sand to find food.
Extent of Outbreak:	Approximately 570 acres are infested. Some of the area is barren. Approximately 1/2 the area is heavily infested, the remainder lightly.
Location of Outbreak:	Provicetown Beach, Long Point, Race Point, and Pilgrim Heights. The attached map shows the locations of the infestation.

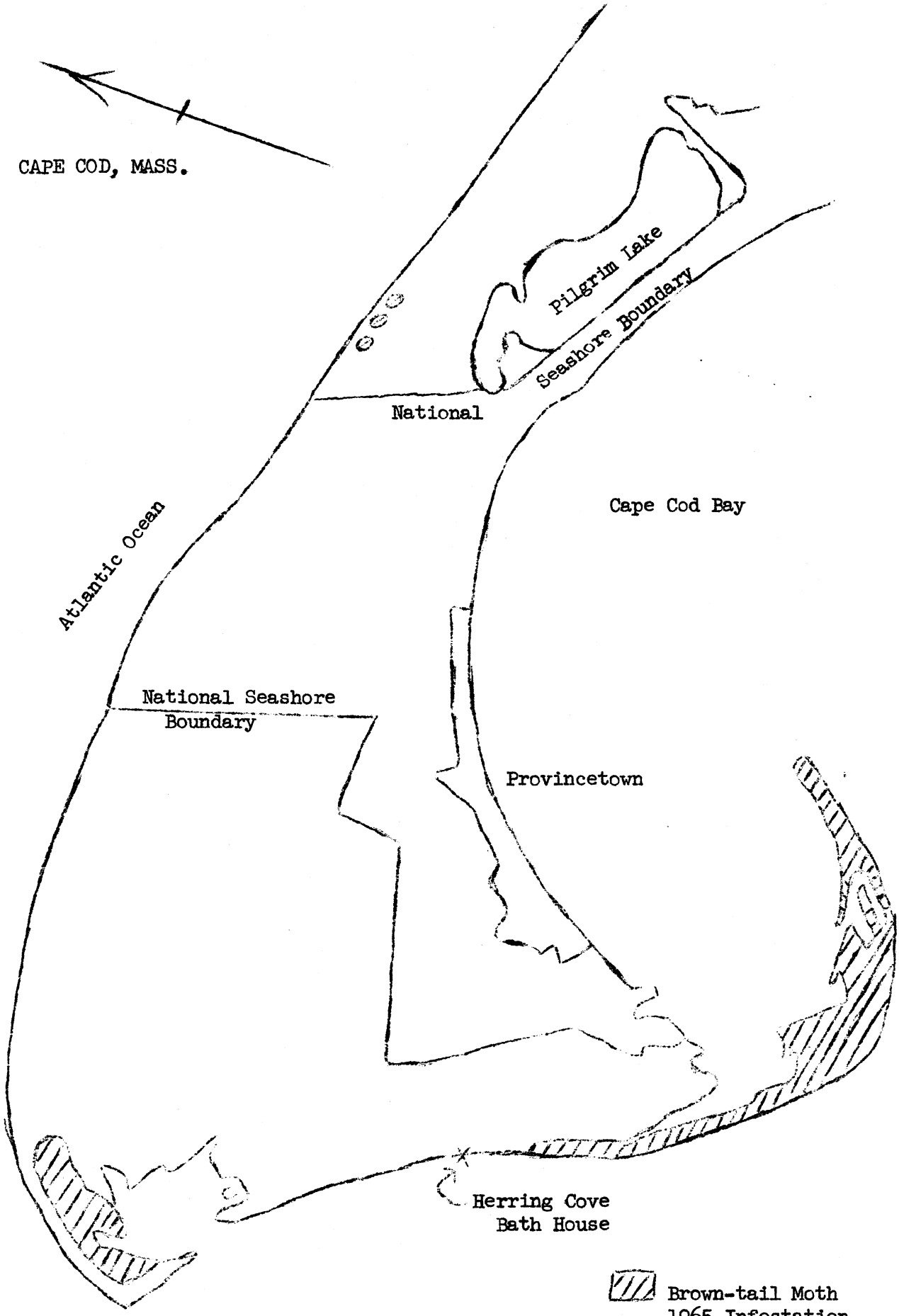
Discussion: Additional brown-tail moth infestations are located on other parts of the Cape. Sevin is evidently an effective insecticide against this insect. Fall spraying is difficult because hibernation dates are staggered. The population is evidently increasing.

Recommendations: It is recommended that a suppression program be undertaken. The initial stage conducted in 1965 did not sufficiently reduce brown-tail populations. Hand-clipping of nests is recommended only as a clean-up method after chemical control. Nests buried under sand will not be affected by the spray. These may be hand clipped as they become exposed by sand movement. Chemical control should begin in the spring as soon as leaf buds break.

Application of Sevin by helicopter would probably be the most feasible method of suppression.

It is not expected that the infestation can be controlled in one year because of the difficulty of treating those nests under the sand.

If no suppressive action is taken, the brown-tail moth population will probably increase both in intensity and extent.


CAPE COD, MASS.
Pilgrim Lake
Seashore Boundary
National
Cape Cod Bay
Atlantic Ocean
National Seashore
Boundary
Provincetown
Herring Cove
Bath House
Brown-tail Moth
1965 Infestation
Scale: 3/4" = 1/2 mile